

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Toshiki Kaneko, et al

Patent No.: 6,912,035

Issued: June 28, 2005

Application No.: 09/754,232
Filed: January 3, 2001

For: LIQUID CRYSTAL DISPLAY
DEVICE

Confirmation No.: 2619

Examiner: Prasad R. Akkapeddi

Art Unit: 2871

**REQUEST FOR CERTIFICATE OF
CORRECTION UNDER 37 CFR § 1.322**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

July 5, 2007 (e-filed)

Sir:

Pursuant to 37 CFR § 1.322, Applicants submit a Certificate of Correction to show the correct claims in the Letters Patent. The desired corrections are set forth on the form PTO/SB/44, enclosed.

The claims printed in the Letters Patent do not reflect the claims as allowed. The claims that printed were taken from an amendment filed September 29, 2003. However, the correct claims are in an after final amendment filed August 14, 2004 that had been entered prior to payment of the Issue fee.

No fee is believed to be owed since the error was due to the PTO.

Respectfully submitted,

/George B. F. Yee/

George B. F. Yee
Reg. No. 37,478

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: (415) 576-0200
Fax: (415) 576-0300
GBFY
Attachments
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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 1 of 5

PATENT NO. : **6,912,035**

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It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below by replacing claims 1-30 with claims 1-35 below:

1. A liquid crystal display device comprising:
a pair of substrates;
a liquid crystal layer interposed between said pair of substrates;
drain lines and gate lines formed on one of said pair of substrates and crossing each other in a matrix form, each crossing one of said drain lines and gate lines defining a pixel;
a switching element associated with and disposed relative to each pixel;
a sheet like counter electrode comprising a transparent conductive film arranged at each pixel;
a counter voltage line formed on said counter electrode, said counter voltage line including a multi layered structure comprising a first molybdenum layer, an aluminum layer or an alloy layer comprising essentially of aluminum, and a second molybdenum layer in this order;
a first insulating layer formed on said counter electrode and said counter voltage line;
a second insulating layer formed on said first insulating layer; and
a pixel electrode comprising a transparent conductive film which is electrically connected to said switching element.
2. The liquid crystal display device according to claim 1, wherein at least one of said first molybdenum layer and said second molybdenum layer comprises an alloy layer comprising essentially of molybdenum.
3. The liquid crystal display device according to claim 1, wherein said pixel electrode has an approximately linear shaped structure, zigzag shaped structure, slit shape structure, or comb shaped structure.
4. The liquid crystal display device according to claim 3, wherein said pixel electrode extends in the same direction as said gate lines.
5. The liquid crystal display device according to claim 1, wherein said transparent conductive film of said pixel electrode and of said counter electrode each includes one of ITO, IZO and IGO.
6. The liquid crystal display device according to claim 5, wherein said transparent conductive film is a polycrystalline.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 2 of 5

PATENT NO. : **6,912,035**

APPLICATION NO.: **09/754,232**

ISSUE DATE : **June 28, 2005**

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7. The liquid crystal display device according to claim 5, wherein said transparent conductive film is amorphous.
8. The liquid crystal display device according to claim 5, wherein said transparent conductive film of said pixel electrode and of said counter electrode are different materials.
9. The liquid crystal display device according to claim 8, wherein said transparent conductive film is a polycrystalline.
10. The liquid crystal display device according to claim 8, wherein said transparent conductive film is amorphous.
11. The liquid crystal display device according to claim 1, wherein said switching element is a thin film transistor and said first insulating layer is a gate insulating layer of said thin film transistor.
12. A liquid crystal display device comprising:
a pair of substrates;
a liquid crystal layer interposed between said pair of substrates;
a sheet like first electrode comprising a transparent conductive film arranged on one of said pair of substrates;
a multi layered structure line comprising a first molybdenum layer, an aluminum layer or an alloy layer comprising essentially of aluminum, and a second molybdenum layer in this order formed on said first electrode;
a first insulating layer formed on said first electrode and said multilayered structure line;
a second insulating layer formed on said first insulating layer; and
a second electrode comprising a transparent conductive film formed on said second insulating layer.
13. The liquid crystal display device according to claim 12, wherein at least one of said first molybdenum layer and said second molybdenum layer of multi layered structure line comprises an alloy layer comprising essentially of molybdenum.
14. The liquid crystal display device according to claim 12, wherein said second electrode has an approximately linear shaped structure, zigzag shaped structure, slit shape structure, or comb shaped structure.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 3 of 5

PATENT NO. : **6,912,035**

APPLICATION NO.: **09/754,232**

ISSUE DATE : **June 28, 2005**

INVENTOR(S) : Toshiki Kaneko, et al.

15. The liquid crystal display device according to claim 14, wherein said second electrode extends in the same direction as said gate line.

16. The liquid crystal display device according to claim 12, further comprising drain lines and gate lines formed on one of said pair of substrates and crossing each other in a matrix form, pixels being formed corresponding to domains surrounded by crossings of said drain lines and said gate lines, wherein said first electrode and said second electrode are arranged for each pixel.

17. The liquid crystal display device according to claim 16, wherein said transparent conductive film is a polycrystalline.

18. The liquid crystal display device according to claim 16, wherein said transparent conductive film is amorphous.

19. The liquid crystal display device according to claim 16, further comprising a switching element arranged for each pixel, wherein said switching element is connected said second electrode.

20. The liquid crystal display device according to claim 19, wherein said switching element is a thin film transistor and said first insulating layer is a gate insulating layer of said thin film transistor.

21. The liquid crystal display device according to claim 16, wherein said multi layered structure line is arranged over two or more pixels.

22. The liquid crystal display device according to claim 21, wherein said multi layered structure line extends in the same direction as said gate lines.

23. The liquid crystal display device according to claim 12, wherein said transparent conductive film of said first electrode and of said second electrode each includes one of ITO, IZO and IGO.

24. The liquid crystal display device according to claim 23, wherein transparent conductive film of said first electrode and said second electrode are different materials.

25. The liquid crystal display device according to claim 24, wherein said transparent conductive film is a polycrystalline.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 4 of 5

PATENT NO. : **6,912,035**

APPLICATION NO.: **09/754,232**

ISSUE DATE : **June 28, 2005**

INVENTOR(S) : Toshiki Kaneko, et al.

26. The liquid crystal display device according to claim 24, wherein said transparent conductive film is amorphous.

27. The liquid crystal display device according to claim 23, wherein said transparent conductive film is a polycrystalline.

28. The liquid crystal display device according to claim 23, wherein said transparent conductive film is amorphous.

29. The liquid crystal display device according to claim 1, wherein said transparent conductive film of said counter electrode includes one of ITO, IZO and IGO.

30. The liquid crystal display device according to claim 29, wherein said transparent conductive film is polycrystalline.

31. The liquid crystal display device according to claim 29, wherein said transparent conductive film is amorphous.

32. The liquid crystal display device according to claim 1, wherein said counter voltage line extends in the same direction as said gate lines.

33. The liquid crystal display device according to claim 30, wherein said counter voltage line extends in the same direction as said gate lines.

34. A liquid crystal display device comprising:
a pair of substrates;
a liquid crystal layer interposed between said pair of substrates;
drain lines and gate lines formed on one of said pair of substrates and crossing each other in a matrix form, each crossing one of said drain lines and gate lines defining a pixel;
a switching element associated with and disposed relative to each pixel;
a sheet like counter electrode comprising a transparent conductive film arranged at each pixel;
a counter voltage line formed on said counter electrode, said counter voltage line including a multi layered structure comprising a first molybdenum-containing layer, an aluminum layer or an alloy layer comprising essentially of aluminum, and a second molybdenum-containing layer in that order;
a first insulating layer formed on said counter electrode and said counter voltage line;

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 5 of 5

PATENT NO. : **6,912,035**

APPLICATION NO.: **09/754,232**

ISSUE DATE : **June 28, 2005**

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a second insulating layer formed on said first insulating layer; and
a pixel electrode comprising a transparent conductive film which is electrically connected to said
switching element,
wherein said first molybdenum-containing layer is either a layer of molybdenum or an alloy
layer comprising essentially of molybdenum,
wherein said second molybdenum-containing layer is either a layer of molybdenum or an alloy
layer comprising essentially of molybdenum.

35. A liquid crystal display device comprising:
a pair of substrates;
a liquid crystal layer interposed between said pair of substrates;
a sheet like first electrode comprising a transparent conductive film arranged on one of said pair
of substrates;
a multi layered structure line comprising a first layer containing molybdenum, an aluminum
layer or an alloy layer comprising essentially of aluminum, and a second layer containing
molybdenum, in that order formed on said first electrode;
a first insulating layer formed on said first electrode and said multilayered structure line;
a second insulating layer formed on said first insulating layer; and
a second electrode comprising a transparent conductive film formed on said second insulating
layer,
wherein said first layer is either a layer of molybdenum or an alloy layer comprising essentially
of molybdenum,
wherein said second layer is either a layer of molybdenum or an alloy layer comprising
essentially of molybdenum.